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L4: Entry 1 of 1

File: USPT

Dec 10, 2002

DOCUMENT-IDENTIFIER: US 6492574 B1

TITLE: Center-fill absorbent article with a wicking barrier and central rising member

Detailed Description Text (8):

The wicking barrier 24 can be a polymeric film or plastic film; a nonwoven web; a layer of rubber, silicone, or other non-absorbent materials; or a less pervious paper sheet including, for example, glassine, wax paper, impregnated papers, paper-polymer composites, densified tissue, paper or tissue containing internal sizing to render it less hydrophilic, paper or tissue treated with hydrophobic matter such as wax, silicone, thermoplastic material, or polyolefins. Flexible hydrophobic foams may also be used, such as a closed-cell polyurethane foam or a silicone foam. A hydrophobic web such as a meltblown web of a polyolefin without surfactants or other hydrophilic treatments can also be used, provided that a useful barrier function is achieved. Such materials can include the transfer delay barrier materials disclosed in the commonly owned U.S. patent application Ser. No. 60/079,657, "An Absorbent System for Personal Care Products Having Controlled Placement of Visco-Elastic Fluids" by A. S. Burnes et al. Desirably, the barrier material will have a porosity less than 20%, specifically less than 10%, more specifically less than 5%, and more specifically the barrier material will be substantially nonporous or substantially impermeable, though a small number of apertures or small openings can be provided in selected portions of the barrier material to prevent oversaturation of the central absorbent section 18. With apertures added, it is still desirable that the average open area of the barrier material be less than 20% and more specifically less than about 5%. (A useful exception is when the wicking barrier is designed to hinder horizontal flow but to allow substantial vertical flow of fluid to an underlying absorbent layer beneath the central absorbent section 18, in which case a large central aperture or hole may be provided in the central portion of the wicking barrier 24 while the outer portions are substantially impervious, particularly the portion that forms the horizontal component 26 around the central absorbent section 18.) In some cases, such as when a barrier material in the form of a flexible polymer sheet is used, including a polypropylene or polyethylene web, the barrier material can have a thickness of about 0.2 mm or less, more specifically about 0.1 mm or less, and most specifically about 0.08 mm or less, with an exemplary range of from about 0.02 mm to about 0.3 mm. A preferred material for the wicking barrier 24 is a thin, flexible polyolefin film desirably having a basis weight less than 40 grams per square meter (gsm) and specifically less than 25 gsm, optionally comprising coloring agents and pigments or fillers such as titanium dioxide or calcium carbonate for opacity.

Detailed Description Text (127):

The absorbent cores of the present invention can comprise superabsorbent particles, such as from 5% to 90% by mass superabsorbent particles on a dry mass basis, or from about 30% to about 70% superabsorbent particles, alternatively from about 10% to about 50% superabsorbent particles and more specifically from about 10% to about 40% superabsorbent particles. Superabsorbent material can be incorporated as loose particulates, particles bound to the hydrophilic fibers, superabsorbent fibers, or as a component of the binder material or structuring composition. Superabsorbent material can also be provided in the form of a foam, as disclosed in U.S. Pat. No. 5,506,035, "Superabsorbent Polymer Foam," issued to Van Phan et al., Apr. 9, 1996, or incorporated into the void spaces of an absorbent foam.

Detailed Description Text (141):

Useful breathable materials can also be made by electrospinning technology, wherein a suspended polymer solution or melt is charged to a high voltage relative to a collection grid (see P. W. Gibson, H. L. Schreuder-Gibson and D. Rivin, "Electrospun Fiber Mats: Transport Properties," AIChE J., 45(1) 190-195 (Jan. 1999)). Electrical forces overcome surface tension and allow a fine jet of the polymer solution or melt to move toward the grounded or oppositely charged collection grid. The jet may splay into even finer fiber streams before reaching the target, and may be intercepted by a cloth or fabric that carries the fine fibers away. The dried or solidified fibers can have diameters of 40 nm (0.04 microns), though 200 to 500 nm fibers may be more common. The resulting materials can have small pores that permit vapor transport while inhibiting liquid transport, thus making useful breathable films.

Detailed Description Text (142):

Elastomeric fibers may also be used to create breathable, stretchable films. In one embodiment, a layer of electrospun nanofibers are deposited on film or nonwoven web, such as an apertured film or elasticized web, in order to provide a breathable moisture barrier layer attached to a layer providing other functionality such as texture, elasticity, integrity, or bulk.

☐ 3. Document ID: US 6395046 B1

L4: Entry 3 of 5

File: USPT

May 28, 2002

US-PAT-NO: 6395046

DOCUMENT-IDENTIFIER: US 6395046 B1

TITLE: Dust filter bag containing nano non-woven tissue

DATE-ISSUED: May 28, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
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Raabe; Ernst	Raubling			DE

US-CL-CURRENT: 55/382; 15/347, 15/352, 55/486, 55/487, 55/DIG.2

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
Draw Desc	Image								

KVMC

☐ 4. Document ID: US 6382526 B1

L4: Entry 4 of 5

File: USPT

May 7, 2002

US-PAT-NO: 6382526

DOCUMENT-IDENTIFIER: US 6382526 B1

TITLE: Process and apparatus for the production of nanofibers

DATE-ISSUED: May 7, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
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Ertley; Dale	Kent	OH		

US-CL-CURRENT: 239/294; 239/424

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments
Draw Desc	Image								

KVMC

☐ 5. Document ID: US 6265466 B1

L4: Entry 5 of 5

File: USPT

Jul 24, 2001

US-PAT-NO: 6265466

DOCUMENT-IDENTIFIER: US 6265466 B1

TITLE: Electromagnetic shielding composite comprising nanotubes

DATE-ISSUED: July 24, 2001

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Glatkowski; Paul	Littleton	MA		
Mack; Patrick	Milford	MA		
Conroy; Jeffrey L.	Rumford	RI		
Piche; Joseph W.	Raynham	MA		
Winsor; Paul	Somerset	MA		

US-CL-CURRENT: 523/137

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	KMOC
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